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Department of Agriculture

FOREST SEEDS

A descriptive list of seeds for
trees and shrubs suitable for

FOREST PLANTINGS

WINDBREAKS

SHELTER BELTS

EROSION CONTROL

GAME & BIRD PROTECTION



MARCH, 1935

F. W. SCHUMACHER, Horticulturist

P. O. B. 131, JAMAICA PLAIN, BOSTON, MASS.

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INTRODUCTION

An interchange of species of forest trees between various parts of the world has been taking place at an ever increasing rate in the past fifty years. Large plantings of trees, native to Europe and the Orient, are made in America, and European Foresters are planting native American trees to even larger extent. There are existing more planted trees of Green Douglas Fir, Sitka Spruce, White Pine, Red Oak and Black Locust in Europe than there were ever planted in their native country, over here.

There is much experimenting to be done yet in America to determine just what the most suitable forest trees are for various conditions and requirements.

It is the purpose of this list to make known and available in seed form any type of tree or shrub suitable for forest planting in the United States with special consideration of such strains as are hardier and superior to the average grade available.

Besides regular forest trees, as for timber production, mention is given to trees and shrubs of value for marginal plantings on forests, for shelter belts and wind breaks, for erosion control work, as well as for cover and food plants for game, birds and all kinds of wild life.

The need of marginal plantings on pure stands of planted timber should be emphasized. Young plantings take care of themselves, but when stands grow up, the importance of marginal plantings as wind screens, moisture retaining, disease and insect infestation controlling factors becomes obvious. Every natural forest has its marginal protection and every planted forest should have it likewise.

Control of insect infestation and bird protection go hand in hand. Where birds are properly protected and given a chance to multiply to the extent of the biologically possible limit, insect infestation will cease to be a problem. Breeding grounds planted for the special purpose to re-introduce birds, should be planted wherever possible. Experiments in the line of bird protection as conducted the past fifty years in European countries, have proven the feasibility of such undertaking.

Suggestions, critical as well as constructive, to the contents of this list are cordially invited.

I

CONIFERS

ABIES	oz.	¼ lb.	lb.
amabilis —Cascade Fir. A handsome Western Fir	\$.30	\$.75	\$2.50
balsamea —Balsam Fir .....	.25	.65	2.25
This is the only true American Fir, being of commercial importance. Its wood being used for various purposes, it also makes a satisfactory Christmas tree and is extensively planted for that purpose. It is a tree of the north and is doing best in cool moist locations. It will not thrive on hot dry sites. It is short lived compared to Spruce and other Firs.			
cephalonica —Greek Fir .....	.20	.40	1.50
An important timber in its native country and a handsome ornamental of pyramidal shape. The value of its wood compares with Oak Timber.			
cilicica —Cilician Fir .....	.25	.55	2.00
concolor —White Fir			
The hardiest and most widely planted native Fir in the States, succeeding almost everywhere. A fine ornamental and a good timber tree.			
Seed from California .....	.15	.40	1.35
Seed from Colorado .....	.15	.35	1.25
fraseri —Fraser Fir (Southern Balsam Fir) .....	.45	1.10	3.85
Similar to Abies balsamiae but adapting itself better to varying conditions and doing well under cultivation. A good forest tree and fine ornamental.			
grandis —Great Silver or Lowland Fir. One of our largest native Firs .....	.25	.55	2.00
homolepis (brachyphylla) —Nikko Fir .....	.20	.50	1.75
Considered one of the most ornamental Firs; hardy in the East.			
lasiocarpa (subalpina) —Alpine Fir .....	.35	.80	2.75
The hardiest and most widely distributed Western Fir. Of narrow columnar shape. The characteristic Fir of the high mountain country.			
magnifica —Red Fir .....	.30	.75	2.50
Another Western Fir. A noble ornamental and a preferred timber tree.			
nobilis —Noble Fir. A handsome Western Fir and valuable timber tree. ....	.40	1.00	3.50
nordmanniana —Nordmann Fir			
An important Fir from the Caucasus Mountains. Widely planted in Europe as an ornamental tree and of some silvi-cultural importance. It is not hardy in the North but should be given a trial in the milder regions of the States.			
Seed from planted stands in Northern Europe, a hardy strain.....	.25	.65	2.25
pectinata —European Silver Fir .....	.15	.25	.75
Europe's most important Fir for timber. Becoming of large size and old age, it produces an excellent wood, much in demand for heavy structural and ship's timber. The tree is most shade tolerant and often planted as undercrop in Spruce and hardwood forests to succeed the present generation of trees. It is not hardy in the north, but should thrive within the range of Frazer Fir in the southern part of the Atlantic Seaboard, where it is recommended for trial.			
pinsapo —Spanish Fir .....	.25	.65	2.25
A handsome, highly ornamental conifer, quite different from other Firs; hardy in the Eastern States.			
pinsapo glauca —Blue Spanish Fir .....	.45	1.10	3.60
sibirica —Siberian Fir. Hardest of all Firs.....	.35	.90	3.00
veitchi —Veitch Fir. Fine oriental Fir.....	.20	.50	1.75

CEDRUS

atlantica —Mount Atlas Cedar .....	.30	.75	2.50
This and all other Cedars are magnificent ornamental trees for the milder parts of the country.			
atlantica argentea (glauca) —Silver Atlas Cedar .....	.30	.80	2.75
With silvery or bluish foliage. Hardier than the preceding variety.			
deodara —Deodar or Himalaya Cedar .....	.30	.80	2.75
libani —Cedar of Lebanon .....	.35	.80	2.80
A fine ornamental and valuable forest tree. The wood, the ancient Cedar wood as used for the Temple of Jehova, is very strong and durable, and said to last a thousand years.			

CHAMAECYPARIS

lawsoniana —Lawson Cypress or Port Orford Cedar			
A native to the Pacific Coast, growing wild in a limited area around Port Orford in Oregon, where it is highly regarded for its excellent timber. In Europe it has gained not only horticultural importance as a fine ornamental (as which it is propagated in countless varieties by nurserymen) but as a forest tree also. Requires the same climatic conditions as the Green Douglas Fir.			
Imported seed .....	.20	.40	1.50
Seed from Southern Scandinavia. A hardy strain.....	.35	.90	3.00
obtusa —Hinoki Cypress .....	.15	.25	.80
One of Japan's most valuable timber trees, fairly hardy in the States, also a fine garden plant.			
pisifera (retinispora) —Sawara Cypress .....	.15	.30	1.00
A valuable garden plant and a timber tree as well; requires a moist and sheltered location for best results.			

	oz.	¼ lb.	lb.
CRYPTOMERIA. An outstanding forest tree in Japan, a magnificent ornamental.			
japonica—Cryptomeria			
Japanese seed.....	.15	.35	1.25
Seed from specimen plants in Europe .....	.25	.70	2.25
CUPRESSUS			
arizonica —Arizona Cypress. Hardest American Cypress, a fine ornamental...	.25	.70	2.35
macrocarpa —Monterey Cypress. The sea coast Cypress of Northern California ..	..	.80	3.00
sempervirens horizontalis —Italian Cypress .....	..	.25	.75
sempervirens (pyramidalis stricta) —Columnar Italian Cypress.....	..	.25	.80
GINKGO			
biloba —Maidenhair Tree, domestic seed.....	.15	.25	.80
An interesting broadleaved ornamental tree from the Orient.			
JUNIPERUS			
Junipers are of value in game preserves as shelter and food plants for wild life and in bird sanctuaries as nesting plants for small birds.			
chinensis —Chinese Juniper.....	.25	.60	2.25
One of the hardest of all Junipers, much used in landscape work.			
chinensis pyramidalis. A narrow columnar shaped form; clean seed .....	..	.80	2.75
communis —Common Juniper, a hardy native.			
Clean imported seed .....	.15	.40	1.35
New England berries .....	..	..	1.15
communis canadensis —Spreading Juniper ... ..	..	.40	1.50
communis depressa (prostrata) —Prostrate Juniper .....	..	.40	1.40
communis montana —Mountain Juniper.....	..	.40	1.40
communis pyramidalis —Pyramidal Juniper, Clean seed .....	.30	.70	2.50
scopulorum —Colorado Juniper			
A plant of the western mountain and semi-desert country, claiming large areas of rock piled slopes where it is often the only plant in existence.			
Seed from Colorado .....	..	.35	1.35
Seed from Montana or Dakota .....	..	.50	1.75
virginiana —Red Cedar. A well-known ornamental and useful timber tree.			
Seed from New England.....	.25	.55	2.00
Seed from Kentucky .....	.15	.25	.80
Seed from Minnesota.....	.15	.30	1.00
Seed from Nebraska, Plate River type .....	.15	.25	.80
Clean seed from nursery specimens.....	.25	.65	2.25
LARIX —Larch			
The Larches are valuable timber trees, furnishing a resinous, close grained, heavy, very strong and durable wood and a number of turpentine products.			
dahurica.....	.35	.85	2.85
A very rugged Larch, recommended for mountainous sections in the North.			
europaea —European Larch			
Seed from the Alps, 1000–2000 feet.....	.20	.40	1.50
Large grained seed from the Western High Alps, 5000–6000 feet. This is a rugged mountain strain starting its growth late and terminating it quickly.			
It is the preferred strain for localities with a short season .....	.30	.75	2.50
europaea sudetica (polonica) .....	.30	.75	2.50
From the giant mountains in Northern Europe, the most northerly strain, very hardy and disease resistant.			
laricina (americana) —American Larch			
Native to the eastern states. SEED COLLECTORS WANTED.			
leptolepis —Japanese Larch .....	.30	.80	2.85
Very fast growing and the most beautiful of all Larches. An important forest tree, the preferred Larch where quick results are wanted.			
occidentalis —Western Larch. Tamarack .....	.35	.85	3.00
A very tall growing Larch to 180 feet, a native of the Northwest, said to be an important timber tree in some sections of Western Canada, recommended for experimental plantings.			
siberica —Siberian Larch, is similar to European Larch but grows larger .....	.50	1.30	4.50
LIBOCEDRUS			
decurrens —California Incense Cedar .....	..	.50	1.75
A noble ornamental tree, close to Arborvitae, valuable for its timber.			
PICEA —Spruce			
Due to its wide distribution Spruce is one of the most important timber trees in America. Contrary to the requirements of Pine, moisture is the most important factor governing the development of Spruce, while on the other hand, Spruce is more shade tolerant than Pine and may successfully stand periods of suppression in its early stages of life.			
breweriana —Weeping Spruce			
A very rare spruce, limited to a small range in Southern Oregon and Northern California; seed occasionally available. COLLECTORS WANTED.			
canadensis (alba, glauca) —White Spruce			
America's most widely distributed and hardest Spruce. An important forest and handsome ornamental tree.			
Seed from planted stands .....	.20	.50	1.75
Seed from Northern New England .....	.45	1.20	4.00

PICEA—Spruce	oz.	¼ lb.	lb.
canadensis albertiana —Black Hills Spruce . . . . .	.55	1.50	5.00
A western variety hardier than type but slower growing; extremely drought resistant.			
engelmanni —Engelmann Spruce			
The most important Spruce of the Rocky Mountains and adjoining territories.			
Seed from the Northern Rockies . . . . .	.35	1.00	3.50
Seed from Colorado . . . . .	.30	.75	2.50
excelsa —Norway Spruce			
Europe's most important timber tree, widely planted in the United States, often in preference to the native spruces because of its faster growth. With seed available from a wide range of distribution it is essential that the hardier strains should be used for planting. Strains of South Central and Western Europe are faster growing, but not as hardy as those of North Central Europe. Strains from the extreme North are apt to be slow growing and are to be recommended for extreme conditions only. We ordinarily carry in stock seed of three strains but are prepared to furnish seed of other strains upon request.			
Order by lot number:			
Lot 1—Seed from South Central Europe hill districts; 1000-2000 feet; gravelly soil—a good strain for congenial sites . . . . .	.15	.40	1.25
Lot 2—Seed from North Central Europe, Harz and Thuringian Mountains; 1500-3000 feet; a rugged mountain strain superior in many ways to ordinary seed, preferred by European foresters and nurserymen . . . . .	.20	.65	2.00
Lot 3—A Lowland Strain from Northern Europe growing on moist sand lands a few feet above water level, exceeding in size and wood production the mountain strains. Grown under congenial conditions this seed will produce a superior plant material of dark green color as preferred in landscape work and for use as Christmas trees . . . . .	.20	.65	2.00
excelsa —Norway Spruce—various strains			
Seed from France—a fast growing type . . . . .	..	.55	2.00
Seed from Central Alps, 3000-5000 feet . . . . .	..	.55	2.00
Seed from forests of Bohemia; 1000-2000 feet . . . . .	..	.55	2.00
excelsa borealis —Polar Spruce. From the extreme North of Europe . . . . .	.50	1.20	4.00
mariana (nigra) —Black Spruce . . . . .	.65	1.75	6.00
A native species covering approximately same range as White Spruce. Close to Red Spruce but less valuable commercially.			
obovata —Siberian Spruce of extreme hardiness . . . . .	.45	1.25	4.25
omorika —Serbian Spruce	2.50	8.00	30.00
One of the hardiest of all Spruces and from the ornamental point of view the noblest of them all; also a good timber tree.			
pungens —Colorado Spruce . . . . .	.35	.85	3.00
Highly valued as an ornamental; also a timber tree of some importance. Ignorance as to its requirements has often planted this tree where it has no chance to thrive. Disliking close quarters, it does best on dry land and in exposed, even wind-swept places, where it thrives and develops beautiful specimens.			
pungens glauca —Colorado Blue Spruce. From blue stands . . . . .	.40	1.10	3.75
pungens glauca —Blue Spruce. Hand-picked from blue trees . . . . .	.75	1.85	6.50
rubra —Red Spruce . . . . .	.40	1.00	3.50
A native Spruce confined to the States of the Atlantic Seaboard, preferring the cool and moist climate of the mountainous sections. The most important timber Spruce within its range.			
sitchensis —Sitka or Tide-Water Spruce . . . . .	.45	1.20	4.00
The largest and most imposing of all Spruces confined to the close proximity of the Pacific Coast. As the fastest growing species of Spruce it is widely used for reforestation in European countries. Requiring a moderate climate, not subject to extremes, it is not hardy in the Northeastern States. Not before it is tested in various parts of the country will we know where it can be successfully planted, but it may be expected that it will become one of the most prominent forest trees of the future. The wood is highly prized and much in use for construction of aircraft			

PINUS

albicaulis —White Bark Pine.			
A hardy Pine of the Northwest. COLLECTORS WANTED			
aristata —Bristlecone Pine . . . . .	.25	.70	2.25
A native Pine from Colorado; small tree or shrub; fine for landscape work.			
attenuata (tuberculata) —Knobcone Pine . . . . .	.85	2.00	7.00
Least demanding in its requirements for moisture, it grows on the poorest, driest, exposed mountain sides, bearing cones at an early age; a prolific seeder.			
austriaca , see nigra			
banksiana —Jack Pine . . . . .	.35	.80	3.00
Formerly looked upon as a weed tree, the Jack Pine has become an important timber tree much used for railroad ties, laths, shingles and pulpwood. It is the hardiest of American northland pines, succeeding on poorest sand and bare rocky ground, growing to 40 feet high on good, but of shrubby habit on poor land. Bearing seed at an early age, it self-sows readily, and on poor sites makes a good forecrop for more valuable trees to follow.			
bungeana —Lacebark Pine . . . . .	.40	.90	3.50
A holy tree of the Chinese, planted in Temple grounds; through exfoliating, bark becomes chalky while on old trees; seed rare.			
canariensis —Canary Pine . . . . .	.20	.50	1.75

PINUS	oz.	¼ lb.	lb.
caribaea —Slash Pine . . . . .	.35	.85	3.10
One of the most profitable timber trees of the South, both for its wood and naval stores products. It is said to have the heaviest, hardest and strongest wood of all commercial conifers in the States. Fast growing and adapting itself to various conditions, it is an ideal tree for planting on bad land and even on wet ground.			
cembra —Swiss Stone Pine . . . . .	.15	.25	.90
A fine ornamental and good timber tree with edible seeds. Seed is slow germinating.			
cembra sibirica —Siberian Stone Pine . . . . .	.20	.40	1.50
Faster growing and somewhat hardier than preceding.			
contorta —Shore Pine—Pacific Coast States . . . . .	.40	1.00	3.75
contorta latifolia , see Pinus murrayana			
coulteri —Coulter Pine . . . . .	.45	1.10	4.00
Imposing Pine from California with large cones. . .			
densiflora —Japanese Red Pine—similar to Scotch Pine . . . . .	.20	.40	1.50
densiflora unbraculifera —Japanese Umbrella Pine . . . . .	.80	2.00	7.50
A dwarf variety, the Japanese Tanyosho Pine, seeding sparingly.			
echinata —Short Leaf Pine . . . . .	.65	1.60	5.75
An important timber along the Atlantic Coast; also a fine ornamental.			
edulis —Nut or Pinion Pine . . . . .	.20	.35	1.25
Shrubby tree of the semi-desert country of Southern Colorado, New Mexico and Arizona. Its large edible seeds formed an important part in the diet of the native Indians.			
excelsa —Himalayan Pine. Seed from planted stands . . . . .	..	.60	2.00
One of the most ornamental of all Pines and extremely smoke resisting, it has gained importance for planting in cities and industrial districts.			
flexilis —Limber Pine . . . . .	.30	.75	2.50
A native to the western mountains. Used in landscape work for its limited size. With edible seeds.			
halepensis —Aleppo Pine . . . . .	.15	.40	1.25
Valuable timber tree. An important source for tar and turpentine products, also for tanning materials. Suitable for sea-shore planting in the South.			
jeffreyi —Jeffrey Pine . . . . .	.25	.65	2.25
California and Oregon; a fine ornamental and most remarkable of native Pines, with leaves to eight inches long.			
koraiensis —Korean Pine . . . . .	.15	.35	1.00
A very handsome and hardy Japanese Pine of the cembra group; a valuable tree for landscaping, with edible seeds which when planted will germinate the next season.			
lambertiana —Sugar Pine . . . . .	.20	.45	1.00
Tallest of all American Pines. A valuable timber tree in Southern Oregon and Northern California with enormous cones to two feet long.			
leucodermis —Gray Bark Pine—Balkan Mountains . . . . .	.35	.80	3.00
longifolia —Indian Pine—Himalayan Mountains . . . . .	..	2.25	7.00
maritima , see pinaster			
massoniana —Chinese Red Pine . . . . .	.30	.60	2.50
montana , Mountain Pine, from the mountains of Europe. A very variable species of shrubby to tree-like habit growing near to timberline. Much planted for protection against snow and stone slides, erosion prevention and successfully used as substitute for the tender <i>Pinus pinaster</i> (<i>maritima</i>) along the sea coasts of Northern Europe for planting on dunes where it forms impenetrable thickets. It is also an extremely valuable shelter plant in game and bird reservations.			
montana gallica —French Mountain Pine . . . . .	.40	1.15	3.85
A native of the French High Alps (6,000 feet).			
montana mughus —Mugho Pine, dwarf prostrate. Seed from extra selected dwarf strain . . . . .	.30	.80	2.85
montana mughus compacta , of compact ball shaped proportions . . . . .	.35	.80	3.00
montana pumilio —Shrubby Swiss Pine . . . . .	.30	.80	2.85
montana uncinata —Large Swiss Pine of tree form . . . . .	.25	.55	2.00
monticola —Western White Pine, similar to White Pine . . . . .	.45	1.10	4.00
An important timber tree in Northern Idaho and Montana; extremely hardy.			
muricata —Bishop Pine, California . . . . .	.75	1.85	7.00
Very moderate in its requirements, thriving on poorest sand, peat-bogs, clay soil.			
murrayana (latifolia) —Lodgepole Pine . . . . .	.45	1.10	4.00
The most important timber tree in the Northern Rocky Mountains where it forms extensive forests; the wood is of high quality.			
nigra (austriaca) —Austrian Pine . . . . .	.20	.45	1.60
Most adaptable and useful of all Pines, hardy almost everywhere, and wind resistant; a fine ornamental; an important shelter and forest tree valuable for its timber and turpentine products.			
nigra calabarica —Calabrian Pine . . . . .	.60	1.45	5.00
Tallest of the <i>nigra</i> group; an imposing ornamental and valuable forest tree.			
nigra caramanica (pallisiana) —Crimean Pine . . . . .	.35	.90	2.50
Said to be most ornamental, with glossy leaves.			
nigra poiretiana (laricio) —Corsican Pine. Extremely valuable forest tree with tall straight trunk. Seed from planted stands . . . . .	.35	.90	2.50
Seed from Corsica hill districts . . . . .	.45	1.25	4.00
Seed from Corsica, 4500–5000 feet . . . . .	.50	1.40	4.50

PINUS	oz.	¼ lb.	lb.
palustris —Longleaf Pine . . . . .	.15	.35	1.25
Virginia to Florida, with leaves to 18 inches long. The most important timber tree in its range. The highly resinous wood known the world over as "Pitch Pine" is America's most highly priced export timber. The tree is also a valuable source for turpentine products.			
parryana —Parry Pine, near <i>Pinus edulis</i> . . . . .	.50	1.50	5.00
A shrubby, many branched, short-leaved Pine from high altitudes in California, said to make a fine plant for landscape work.			
parviflora —Japanese White Pine . . . . .	.15	.35	1.25
A fine ornamental extremely useful in landscape work for its limited proportions.			
parviflora pentaphylla —form with longer leaves and cones . . . . .	.25	.65	2.25
peuce —Macedonian White Pine			
A fine ornamental, similar to <i>Cembra</i> , of same habit, often preferred to it on account of being hardier and growing faster. Seed germinates second season after planting.			
Seed from planted stands . . . . .	.25	.55	2.00
Seed from native forests in Macedonia . . . . .	.35	.85	3.00
pinaster (maritima) —Cluster Pine . . . . .	..	.25	.75
Extensively used for seashore planting in South-Western France where it ranks high for timber and turpentine products.			
French seed collected from seashore plantings only . . . . .	.20	.45	1.50
Corsican seed from high elevation—4,500 feet . . . . .	.25	.65	2.25
pinea —Italian Stone Pine . . . . .	.15	.25	.75
A picturesque Pine of the Mediterranean with broad spreading head. Seeds are edible.			
ponderosa —Western Yellow Pine. Pacific Coast Form . . . . .	.15	.65	2.25
Very tall growing Pine of the Pacific Coast States, an important timber species, much planted abroad.			
ponderosa (scopulorum) —Western Yellow Pine, Rocky Mountain Form . . . . .	.20	.55	1.75
Of lesser dimensions but hardier than preceding, seed from Colorado or Dakota.			
pumila —Siberian Creeping Pine . . . . .	.40	.95	3.50
An extremely hardy Pine of the <i>Cembra</i> group; should prove valuable for landscape work.			
radiata (insignis) —Monterey Pine . . . . .	.30	.70	2.50
Northern California. Good for seashore planting wherever moderate climatic conditions prevail.			
resinosa —Red Pine (Norway Pine) . . . . .	.65	1.60	6.00
Native to Northern New England and Eastern Canada, the most important Pine for timber in its range and widely planted for reforestation; a fine and extremely hardy ornamental.			
rigida —Pitch Pine . . . . .	.40	1.10	3.75
The most common native Pine of the East; an important forest tree for planting on sterile soil where other pines will not succeed.			
sabiniana —Digger Pine . . . . .	.20	.50	1.75
Named for the California Digger Indians who collected the seed for food, extremely drought resistant, succeeding on poorest gravelly soils; a fine ornamental.			
strobis —White Pine			
The best known native Pine, a fine ornamental and important timber tree.			
North Eastern seed . . . . .	.30	.70	2.50
Seed from the Lake States . . . . .	.25	.60	2.00
Seed from planted stands . . . . .	.20	.50	1.75
sylvestris —Scotch Pine (European Red Pine)			
Straight Timber Scotch Pine. See Article Page 7			
The best pine seed for average conditions in Northern United States, collected in North Eastern Germany or Western Poland. Germinating 80-90 per cent.			
Other strains:			
Scotch Pine. Rigensis strain, Baltic Provinces . . . . .	..	.70	2.50
Scotch Pine. from Finland, northernmost source . . . . .	.50	1.50	4.50
Scotch Pine, from Sweden, vicinity of Stockholm . . . . .	.50	1.50	4.50
Scotch Pine, from Scotland. True "Scots Highland Fir" seed, a rugged mountain strain recommended for planting in mountainous sections . . . . .	.75	2.00	6.00
Scotch Pine. seed from various sources . . . . .	.15	.40	1.35
tabulaeformis —Japanese Black Pine . . . . .	.20	.45	1.50
taeda —Loblolly Pine . . . . .	.45	1.40	4.00
An important timber tree of the South Eastern states.			
thunbergi —Japanese Black Pine . . . . .	.15	.30	1.00
A native to the seashore, this Pine is more wind-resisting than any other. It has proved its ruggedness in plantings on exposed places on Cape Cod in this state. A preferred ornamental in Japan much planted in gardens and temple grounds.			
torreyana —Southern California . . . . .	.60	1.50	5.00
PSEUDOLARIX			
kaempferi —Golden Larch, China . . . . .	.65	1.75	6.00
A broadly built deciduous tree, a fine ornamental with evergreen plume-like foliage turning bright yellow in fall.			

THE TRUTH ABOUT SCOTCH PINE SEED

The truth about good Scotch Pine seed was first learned by German foresters about one hundred and fifty years ago. It was in Prussia when King Frederick the Great had large areas of land claimed from swamps with pine forests to be planted. Pine seed at that time being available only from France, where the nursery craft and the art of propagating garden plants had originated, French Pine seed was brought to Prussia, and the seedlings obtained were planted out in the sandy soil of the forests to be. The plantings, after a while, proved to be a complete failure. Trees grew dwarfish, quite unlike the native Pine which grows into tall beautiful trees. A lesson was learned and for further plantings native pine seed was used.

It seems to be true that Scotch Pine wherever it grows on deep sandy soil, developing a tap root, penetrating deeply to water level, forms a tall vigorous tree. On the other hand, on shallow or stony soil in mountainous sections, trees become shrubby or even dwarf in nature. Scotch Pine has as many variations as has its cousin, the Mountain Pine, of which the Mugho Pine is a dwarf variety. It was the writer's good fortune, during the years of the World War, to travel far and wide in the Scotch Pine belt in Northern Europe from West to East. There were found beautiful forests of tall growing Scotch Pines in the sand land sections of Northern France, Belgium, Holland, Northern Germany, and immense forests in the Baltic Provinces around Riga and south through the sandy plains of Poland to Galizia and White Russia.

After state foresters in Prussia had found by experience that seed from their native forests was the best obtainable, they started to select forests of the old indigenous race of Pine for seed collection. Many private land owners accepted these experiences, and a movement started to governmentally approve and issue certificates for forests privately owned of the true local race of Pine trees in Prussia. This step was a protective movement; made in order to preserve the superiority of the local tree-race and prevent interbreeding with planted trees, grown from uncontrolled seed sources. There were no actual tree-breeding experiments involved in this movement, no selections made other than removing inferior trees, the whole act being merely a wise preservation of the indigenous natural forest resources. May it be said at this opportunity, tree "breeding" has no field in practical forestry. Where it comes to build resistance to the destructive forces of winds, winter blizzards, sleet storms in our northern climate, men will not succeed to breed better trees than mother nature has made in thousands of years of selection.

The most expensive Pine seed comes from Germany, but this does not mean that Pine seed from farther east, which is often less expensive, is of inferior quality. The greatest natural Pine forests of clean straight timber in Europe are unquestionably beyond the German border in Poland and Western Russia, and for conditions in the Northern United States it is of little consequence if Scotch Pine seed comes from eastern Germany, Northern Poland, or the Baltic Provinces. German seed is very expensive and at times unobtainable. The very best German seed from pedigreed forests costs \$6.00 to \$8.00 and more in Germany.

The cost of production for any kind of Scotch Pine is about the same. All seed must be picked by hand directly from the trees as there are no cone cutting squirrels in the Pine forests of Northern Europe. We had been the first seed house to emphasize the importance of Pine seed collected from a tall timber race, and have imported a good grade of seed from Prussia since 1926. We have been selling this seed at around \$3.00 a pound, at which price a good quality suitable for all conditions in Northern United States can be secured.

As large German reforestation projects are under way, German seed is, and will remain, expensive for some time to come. Under such circumstances, we think it advisable to enlarge our area of supply for Pine seed and will in the future supply it from a sector covering a circle of about five hundred miles around Koenigsberg, the most easterly large town in Germany. Our this year's supply comes from the Polish corridor, from forests planted and cared for by German Foresters before this territory was ceded to Poland. Our best Pine seed collected from the straight timber race of North-Eastern Europe will be offered henceforth under the name "**Straight Timber Scotch Pine.**"

PSEUDOTSUGA

oz. ¼ lb. lb.

- douglasi**—Douglas Fir.
Not being a true Fir, the Douglas Fir belongs in a class by itself. It is America's most American and most important timber tree. Its wood being harder, heavier, stiffer and stronger than of most other timber trees, it has found a wide range of uses. It furnishes the largest timber for heavy construction work and is the universal home-building wood. Three distinct varieties are found in the United States.
- douglasi (taxifolia) caesia**—Blue Douglas Fir.....
An intermediate form between *glauc* and *viridis*; said to be as hardy as a *glauc* and as productive as the *viridis*. It is extensively planted in Europe and should be thoroughly tested for its usefulness as a timber tree in the states.
- douglasi (taxifolia) glauca**—Rocky Mountain Douglas Fir.....
The hardier and lesser variety. It can be grown anywhere in the States.
- douglasi (taxifolia) viridis**—Douglas Fir, Green Coast Strain.....
This is the fastest growing and with the exception of the Californian Redwood, America's largest timber tree, attaining a height of 200 feet and more, with a diameter of six feet. The trees reach a great age, often exceeding five hundred years. The Green Douglas is not hardy in the Northeast but it should prove successful in plantings along the Atlantic Coast from Southern New Jersey to the South. The green douglas has become an important forest tree in the countries of Northern Europe as it grows faster than either the Norway Spruce or Scotch Pine and it succeeds wherever Norway Spruce grows in altitudes up to 2000 feet. A humid climate being essential for optimum development, it succeeds best in sandy or gravelly loam. Seed as to source and altitude, \$4.50-\$7.00 per pound.

.65 1.65 6.00
.45 1.25 4.25
.55 1.50 5.00

SEQUOIA

- gigantea**—Giant Sequoia, Big Tree.....
Central California, the largest conifer in the world, to 300 feet tall, and attaining a great age, a handsome ornamental when young, hardier than the following. A number of plant specimens are known to be thriving in Northern Europe.
- sempervirens**—California Redwood
Northern California; ranks closely next to the Big Tree for size and forming large forests, the grandeur of which is indescribable. Of the wonders of the world the Sequoia and Redwood forests are America's foremost to mention. A valuable timber tree much planted under congenial conditions abroad. Imported seed as commonly available is said to be lacking in vitality and domestic seed is recommended.
- Domestic seed.....
Imported seed.....

.75 1.75 6.00
.65 .50 5.00
.25 .70 2.25

TAXODIUM

- distychnum**—Bald Cypress.....
An important timber tree of the southeastern swamp lands; a fine ornamental; fairly hardy in the North if planted on drained land.

.15 .40 1.25

TAXUS

- The Yews are valuable shelter and nesting plants for bird sanctuaries, they grow very old and furnish an excellent hard, heavy and stiff wood.
- baccata**—English Yew.....
baccata adpressa—Prostrate Yew.....
baccata fastigiata (pyramidal)— Irish Yew, of columnar shape.....
canadensis—Canadian Yew.....
cuspidata capitata—Japanese Yew
Upright form, hardiest of Yews; imported seed.....
Spreading, seed from a fine domestic strain, with dark green feathery foliage.

.25 .50 1.75
.40 .95 3.50
.45 1.00 3.75
.45
.15 .30 1.00
.40 1.00 3.50

THUJA

- occidentalis**—American Arborvitae, White Cedar.....
Eastern North America, source of the most decay resistant native wood; its timber is used for a wide range of purposes.
- occidentalis pyramidalis**—Pyramidal Arborvitae.....
The preferred form for landscaping, hedges, nesting tree in bird reservations.
- orientalis**—Oriental Arborvitae
A valuable landscape plant, not reliably hardy for planting in the North unless a hardy strain is chosen.
Domestic seed.....
Imported seed.....
- orientalis pyramidalis**—Oriental Pyramidal Arborvitae.....
A fine columnar shaped form.
- plicata (gigantea, lobbi)**—Giant Arborvitae, Western Red Cedar.....
Tallest of all Thujas, a valuable timber tree and fine ornamental. Hardy in the East if grown from hardy strain. COLLECTORS WANTED IN IDAHO AND MONTANA.

.35 .80 3.00
.40 1.00 3.50
.20 .40 1.50
.15 .35 1.25
.30 .75 2.50
.35 .85 3.00

TSUGA	oz.	¼ lb.	lb.
canadensis —Canada Hemlock..... Eastern North America. While formerly used only for its bark as source of tannery extract, Hemlock, with the growing scarcity of the more valuable timber trees, now is being extensively cut for its timber. Unsurpassed as an ornamental it is one of the finest of native American Evergreens. A splendid shelter plant for game and bird reservations.	.65	1.50	5.00
caroliniana —Carolina Hemlock..... One of our choicest native evergreens, often preferred to the former, growing slower and more compact but not quite as hardy. Seed is scarce and not available every season.	.70	1.65	6.00
diversifolia —Japanese Hemlock..... The hardiest of the two Japanese Hemlocks; doing well in New England. An exceedingly graceful ornamental of compact proportions with dark green foliage.	.35	.80	3.00
heterophylla —Western Hemlock..... Pacific Coast States; an important timber tree producing wood of better quality than the Canadian Hemlock.	.90	2.00	8.00
mertensiana —Mountain Hemlock..... An alpine tree of the Pacific high mountain country. Quite different in habit from other Hemlocks and with bluish-green foliage. Extremely rugged and wind-resistant. On the rim of Crater Lake in Oregon, 7000 feet high, where Pine grows only as straggly bushes, fine specimens, much like the Cedar of Lebanon in habit, are found. This noble tree deserves widest attention and should be tried out thoroughly by nurserymen. Seed is always scarce and orders should be placed early.	1.25	2.75	10.00
sieboldi —Siebold Hemlock..... Another Hemlock from Japan but not quite as hardy as diversifolia.	.35	.80	3.00
WASHINGTONIA —Washington Palm. The only Palm native to California. A fast growing desert plant; to 70 feet tall; able to thrive where no other trees succeed without irrigation. Recommended for planting in the Southwest. Two species are offered.			
filifera.....	.35	.75	2.75
robusta.....	.40	.85	3.25

II

DECIDUOUS TREES AND SHRUBS

ACER			
campestre —Hedge Maple. A small tree fine for landscape work ..	\$.25	\$.75	
dasycarpum —Silver Maple, Northern seed ..	.20	.50	
Large quantities can be supplied in crop years.			
ginnala —Amur Maple. Of shrubby habit; a good ornamental ..	.50	1.60	
macrophyllum —Oregon Maple. A fine western Maple, leaves turning bright yellow in the fall ..	.50	1.60	
negundo —Box Elder. Our seed is free of weevil ..	\$.15	.30	1.00
negundo californicum —California Box Elder ..	.15	.40	1.25
Extremely rapid growing Maple, much taller than type; very hardy, heat and drought resistant; a fine shade tree much planted in Europe; seed free of weevil.			
palmatum —Japanese Maple. Small seeded ..	.15	.40	1.25
pennsylvanicum —Striped Maple (Moosewood) ..	.20	.50	1.75
A fine native tree of small proportions with striped bark.			
platanoides —Norway Maple, New England seed ..	.20	.50	
One of the hardiest of all Maples.			
platanoides schwedleri . Red leaves in spring, turning dark green later ..	.30	1.00	
pseudoplatanus —Sycamore Maple ..	.20	.55	
pseudoplatanus atropurpureum ..	.30	1.00	
Under side of leaves dark purple.			
rubrum —Red Maple. Ready in May ..	.15	.40	1.25
saccharum —Sugar Maple. Northern seed ..	.15	.40	1.25
AESCULUS			
The Horse-Chestnuts are fine ornamental trees. The nuts are a valuable winter food for all kinds of hoofed game. Order Seeds in September to October.			
glabra —Ohio Buckeye ..	..	..	.25
hippocastanum —Horse Chestnut ..			.20
25 lbs.....\$3.75 100 lbs.....\$10.00			
hippocastanum rubicunda —Red Horse Chestnut ..	..	..	.35
octrandia (flava) —Yellow Buckeye ..	..	..	.25
AILANTHUS			
glandulosa —Tree of Heaven ..	.15	.25	.75
Very hardy, adaptable and drought resistant; for planting on bad land.			
ALNUS			
glutinosa —European Alder, for planting on wet ground ..	.15	.25	.75
incana —European Speckled Alder ..	.15	.35	1.10
Valuable bad-land-tree of shrubby habit, succeeding on lightest ground. Growing side by side this and the American Black Locust are the only trees claiming the huge coal dust and cinder piles in European mining districts.			
viridis —Green Alder ..	.15	.40	1.25

	oz.	¼ lb.	lb.
AMELANCHIER			
canadensis —Shadblow. ....	.25	.60	2.00
A fine flowering shrub. The berries of this ripening in June are a preferred food for birds.			
AMORPHA			
fruticosa —Indigobush ....	.15	.40	1.20
Very hardy and drought resistant; makes a fine nesting plant for sanctuaries.			
AMPELOPSIS			
quinquefolia —Virginia Creeper			
A good ground cover plant for bird sanctuaries and erosion control.			
Clean imported seed.....	.15	.40	1.10
Domestic berries.....	.15	.30	.85
ARALIA			
spinosa —Devil's Walkingstick.....	..	.35	1.25
On account of its berries a valuable food plant for birds. A fine ornamental with large compound leaves.			
ARONIA			
arbutifolia —Red Chokecherry .....	..	.25	.70
The berries of the two Aronias supply winter food for pheasants or other birds.			
melanocarpa —Black Chokecherry.....	..	.25	.70
ASIMINA			
triloba —Pawpaw.....	..	.25	.85
Small tree, native to the South, planted for its fruits which are palatable and a good food for farm animals.			
BERBERIS			
thunbergi . A valuable cover and nesting shrub for bird reservations.			
Fresh berries .....	..	.25	.65
Dry berries .....	..	.40	1.25
Clean seed .....	..	.85	3.00
BETULA			
alba —European Birch.....	..	.25	.75
A graceful tree with hanging branches, similar to the American Gray Birch, but growing taller and attaining greater age.			
alba pendula —European Weeping Birch .....	.20	.45	1.60
More pendulous in habit than the former.			
lenta —Sweet Birch.....	.20	.55	1.75
lutea —Yellow Birch, largest of native Birches.....	.20	.40	1.50
nigra —River Birch, this and the two former are valuable hardwood trees. ....	.25	.65	2.00
papyrifera —Canoe Birch (Paper Birch).....	.15	.40	1.25
Most useful of the American Birches; a valuable timber tree; requires good ground and favorable conditions in regard to moisture.			
populifolia —Gray Birch .....	.15	.35	1.00
Very moderate in its requirements; succeeding on poor land.			
BIGNONIA			
radicans —Trumpet Creeper.....	.25	.65	2.00
Native vine with large red trumpet flowers; fine for covering banks, fences, and dry hillsides.			
CARAGANA			
arborescens —Siberian Pea Tree .....	.20	.45	1.50
Extremely hardy and drought resistant shrub or small tree, very much used in the northwestern prairie states for shelter planting and hedges.			
CARPINUS			
betulus —European Hornbeam.....	.15	.25	.80
A small tree and fine hedge plant for formal gardens and bird preserves lending itself readily to shearing.			
caroliniana —American Hornbeam. Should prove useful as former.....	..	.30	1.00
CASTANEA			
The Chestnuts are valuable forest and farm trees for their nut crops and decay resisting wood. Order in September or October.			
dentata —American Chestnut.....	..	.20	.60
mollissima —Corean Chestnut .....	..	.25	.75
Blight resistant with large nuts—a valuable substitute for the blight affected American Chestnut.			
pumila —Dwarf Chestnut.....	..	.25	1.00
A delightful little Chestnut of shrubby habit bearing profuse crops of small nuts; should be planted in every garden.			
sativa (vesca) —Spanish Chestnut.....	..	.25	.75
The chestnut of the European South. Hardy strains are found as far north as Northern Germany.			
sativa macrocarpa , Large Fruited Spanish Chestnut.....	..	.30	.85
tamba —Giant Japanese Chestnut .....	..	.25	.75

	oz.	¼ lb.	lb.
CATALPA			
speciosa —Western Catalpa . . . . .	..	.25	.65
A fine ornamental and flowering tree with large foliage.			
CELASTRUS			
scandens —Climbing Bittersweet			
Forming impenetrable thickets, it makes a good cover plant for reservations, also useful in erosion control work.			
Clean seed . . . . .	..	..	2.00
Dry berries . . . . .	..	..	1.25
CELTIS —Hackberries			
Small trees for shade and shelter planting. The berries are a good food for birds and small game.			
australis , clean . . . . .	..	.40	1.25
mississippiensis . . . . .	..	.30	1.00
occidentalis . . . . .	..	.45	1.50
CERCIS			
canadensis —American Redbud. A fine native flowering shrub . . . . .	.15	.40	1.25
CLADASTRIS			
lutea —Yellow Wood . . . . .	.25	.60	2.00
A graceful ornamental with long panicles of white flowers.			
CORNUS —Dogwood			
Desirable shrubs for marginal planting in forests, good cover and food plants for game and birds.			
amomum —Silky Dogwood . . . . .	.15	.30	1.00
florida —Flowering Dogwood, Northern Seed . . . . .	.15	.25	.60
mas —Cornelian Cherry, Clean seed . . . . .	.15	.25	.75
paniculata —Gray Dogwood . . . . .	.20	.40	1.50
sanguinea —Bloodtwig Dogwood, Clean seed . . . . .	.15	.30	1.00
CRATAEGUS , Hawthorns			
Valuable trees for game preserves both for cover and for the berries which are a good winter food for all sorts of game. They stand clipping well and planted as hedges in bird sanctuaries provide welcome nesting facilities for small birds. Seeds unless stated otherwise are furnished as berries. For dry berries prices are twice that of fresh berries.			
arnoldiana —Arnold Hawthorn 10 lbs., 2.00	..	..	.25
coccinea —Thicket Hawthorn 10 lbs., 1.80	..	..	.20
coccinoides 10 lbs., 2.00	..	..	.25
cordata —Washington Hawthorn 10 lbs., 6.75	.15	.25	.75
Its small fruits are relished by birds.			
crusgalli —Cockspur Hawthorn 10 lbs., 1.80	..	..	.20
mollis —Downy Hawthorn 10 lbs., 3.50	..	..	.40
nitida —Glossy Hawthorn 10 lbs., 3.50	..	..	.40
oxyacantha (monogyna) —English Hawthorn, Clean seed 10 lbs., 6.75	..	..	.75
Popular hedge plant much used in Europe in bird preserves.			
prunifolia —Plumleaf Hawthorn 10 lbs., 2.00	..	..	.25
punctata —Dotted Hawthorn 10 lbs., 2.00	..	..	.25
submollis —Quebec Hawthorn 10 lbs., 2.50	..	..	.03
succulenta —Fleshy Hawthorn 10 lbs., 4.00	..	..	.45
tomentosa —Pear Hawthorn 10 lbs., 3.00	..	..	.35
CYTISUS			
scoparius —Scotch Broom			
Useful for planting on bare sandy or gravelly soils as forage plant for game or as forecrop for more valuable plantings. As a legume capable of securing nitrogen and equipped with a long tap root it is a soil improving agent.			
Seed from various sources . . . . .	.15	.30	1.00
Seed from Scandinavia; a hardy strain . . . . .	.20	.50	1.75
scoparius strictus . . . . .	.25	.60	2.00
A sturdy variety of stiff, erect habit, well adapted for planting on waste land, the fibre is used industrially.			
DIOSYROS			
Persimmons are valuable fruit trees both for human consumption and food for domestic and wild animals.			
japonica —Japanese Persimmon . . . . .	.15	.25	.75
kaki —Kaki Persimmon, with large fruits . . . . .	.15	.35	1.00
lotus —Date-Plum . . . . .	.15	.25	.75
Important for its fruits and hard wood.			
virginiana —Native Persimmon, the hardiest of all . . . . .	.15	.25	.75

				oz.	¼ lb.	lb.
ELEAGNUS						
angustifolia , Russian Olive .....				.15	.25	.70
Hardy shrubs with edible berries, used for shelter plantings in game and bird preserves.						
argentea —Silver Cherry, seed from the extreme North .....				.15	.40	1.25
One of our hardiest native shrubs, hardy in Northern Canada.						
FAGUS						
americana —American Beech, a noble native hardwood tree. ....				..	.25	.75
sylvatica —European Beech .....				.15	.25	.85
sylvatica purpurea —Purple Beech .....				.20	.45	1.60
FRAXINUS						
americana —White Ash .....				.15	.30	1.00
A valuable forest tree, most useful of all Ashes.						
excelsior —European Ash, similar to the preceding .....				.15	.25	.80
lanceolata (viridis) —Green Ash .....				.15	.30	1.00
pennsylvanica —Red Ash .....				.15	.25	.80
Similar to White Ash, but not as tall.						
velutina —Arizona Ash .....				.20	.45	1.50
GLEDITSIA						
japonica (horrida) —Japanese Honey Locust .....				.15	.40	1.25
triacanthos —Common Honey Locust .....				.15	.25	.75
Very moderate in its requirements, it may be planted on dry exposed sites. For tree crops on farms it does well on dry pasture land, providing gentle shade and as a legume stimulating the growth of grass. It is an excellent tree for game and bird refuges. The pods dropping late in Fall are highly nourishing food for cattle, sheep, hogs and all kinds of wild life.						
triacanthos inermis —Thornless Honey Locust .....				.15	.45	1.35
Often preferred to the Common Honey Locust.						
GYMNOCLADUS						
dioica —Kentucky Coffee Tree .....				.15	.30	.95
HALESIA						
tetraptera —Great Silver-bell .....				.15	.25	.75
HICKORIA (Carya)						
Hickory, Hickories and Pecans should deserve widest attention by farmers and foresters for their nut crops and excellent hardwood. Seed of these should be ordered in September or October.						
alba (tomentosa) —Mockernut				10 lbs. \$1.80	100 lbs. \$12.00	.. .25
cordiformis (amara, minima) —Bitternut				10 lbs. 1.80	100 lbs. 12.00	.. .25
glabra (porcina) —Pignut				10 lbs. 1.80	100 lbs. 12.00	.. .25
laciniosa (sulcata) —Shellbark Hickory				10 lbs. 1.60	100 lbs. 12.00	.. .20
ovata —Shagbark Hickory				10 lbs. 2.25	100 lbs. 14.00	.. .25
This next to the Pecan is the best Hickory for nut crops.						
pecan (olivaeformis) —Pecan.						
Largest of all Hickories, much planted in the South for its excellent nuts.						
Southern seed .....				..	..	.50
Hardy Northern strain, seed scarce .....				..	..	.75
JUGLANS—Walnut.						
As hardwood trees of superior quality, Walnuts deserve widest attention as tree crops, for timber and nuts on farms and for forest planting. Seed should be ordered in September or October for the foreign varieties.						
cinera —Butternut				100 lbs. \$8.00	..	.09
Less requiring as to soil condition, it does well where the Black Walnut will not succeed. The nuts are good eating.						
mandshurica —Manchurian Walnut, fast growing and very hardy .....				..	..	1.25
nigra —Black Walnut				100 lbs. \$8.00	..	.09
For its excellent wood and large edible nuts makes a profitable tree crop on farms. It does best in rich bottomland or on fertile hillsides. Stimulating the growth of grass it is recommended for planting on pasture land.						
regia —English (Persian) Walnut.						
Planted extensively for nut crops in California. The wood is much sought after and highly priced.						
Domestic seed .....				..	..	.50
Seed from northern Europe .....				..	..	1.00
regia sinensis —Chinese Walnut .....				..	..	1.25
sieboldiana —Japanese Walnut .....				..	..	.50
sieboldiana cordiformis —Flat Walnut .....				..	..	.50
LIGUSTRUM						
ibota —Ibota Privet, a good cover plant for reservations. ....				..	.20	.50
LIQUIDAMBER						
styraciflua —Sweet Gum .....				.20	.45	1.50
A fine ornamental and shade tree, excellent as specimen on lawns, a good hardwood tree for forest planting.						

	oz.	¼ lb.	lb.
LIRIODENDRON			
tulipifera —Tulip Tree .....	..	.25	.75
One of the largest and most valuable hardwood trees, an important forest tree. a fine ornamental.			
LONICERA			
Honeysuckle, large shrubs for marginal planting in forests, good cover plants for game and birds.			
xylosteum —Fly Honeysuckle, clean seed .....	.25	.60	2.00
LYCIUM			
chinese —Matrimony Vine .....	.25	.60	2.00
A handsome rambling shrub with red berries, good cover shrub for game and birds, useful for erosion control work.			
MACLURA			
pomifera (toxylon pomiferum) —Osage Orange .....	..	.35	1.20
A hardy native tree planted for hedges or living fence posts. The wood is very hard, strong and durable in contact with the soil.			
MAGNOLIA			
acuminata —Cucumber Tree, Northern seed .....	.20	.40	1.50
A stately ornamental, good shade and valuable lumber tree.			
MAHONIA			
aquifolium —Oregon Hollygrape, Clean seed .....	.20	.50	1.75
A fine low growing evergreen, a cover and food plant for bird preserves.			
MALUS			
coronaria —Wild Sweet Crab, Clean seed .....	.55	1.60	..
Small, hardy native tree providing with its abundant crops of green fruits, a source of winter foods for all kinds of game. The fruit is too sour to be used for eating, but when cooked with other apples imparts a delicious flavor to the cooking. Used as stock plant for the garden varieties of native crabs.			
sylvestris —Common Apple, used for stock.			
Seed from cultivated trees .....	.15	.25	.75
Seed from true wild stock .....	.15	.30	1.00
MORUS			
Mulberry, small trees planted for their foliage as food for the Silkworm, their edible berries and durable wood. As berries are relished as food by Chickens, Turkeys, Hogs, Birds and other wild life, they cannot be too highly recommended for planting on farms and wild life preserves.			
alba —White Mulberry, not hardy North .....	.15	.40	1.20
alba tatarica —Russian Mulberry .....	.20	.45	1.35
Hardy, much planted in the Prairie States.			
rubra —American Mulberry.			
A neglected native, but just as valuable as the foreign kinds and hardy everywhere. COLLECTORS WANTED.			
NYSSA			
Tupelo, attractive ornamentals with glossy foliage turning bright red in Autumn.			
aquatica —Big Tupelo .....	.15	.35	1.00
sylvatica —Tupelo (Black Gum—Sour Gum) Northern seed .....	.15	.35	1.00
PLATANUS			
occidentalis —American Plane Tree (Sycamore), Clean seed .....	.15	.35	1.00
Considered the largest hardwood tree in North America, a fine shade tree.			
orientalis —European Plane Tree, Clean seed .....	.15	.35	1.00
More shapely than the native plane and free from leaf and twig blight, a fine shade tree for avenues.			
PRUNUS			
americana —American Plum, Clean seed .....	.15	.35	1.00
A hardy native small tree, much planted in the Prairie States for its fruit.			
avium —European Mazzard, Clean seed .....	.15	.25	.75
An excellent food tree in bird reservations for its cherries, a stately ornamental and fine flowering tree, a stock plant for sweet cherries. The wood is of high quality and price.			
avium sylvestris —Wood Mazzard, Clean seed .....	.15	.30	1.00
A hardier, gum flux resistant strain with silvery bark, preferred by nurserymen for stock.			
besseyi —Western Sand Cherry, Clean seed .....	.20	.50	1.75
Extremely hardy native shrub, bearing heavy crops of edible fruit.			
demissa melanocarpa (virginiana melanocarpa) —Western Chokecherry.			
A hardy cherry much planted for shelter and wind break planting and for its delicious fruit.			
Clean seed .....	.25	.65	2.25
Dry berries .....	.20	.40	1.50
mahaleb —Mahaleb Cherry, Clean seed .....	.15	.25	.75
Used as stock for sour Cherries, fruit is relished by birds.			

PRUNUS	oz.	¼ lb.	lb.
mandshurica —Manchurian Apricot.....	15.	.30	1.00
The hardiest of Apricots, succeeding in the Northwest.			
maritima —Beach Plum .....	.25	.60	2.10
Hardy native Plum for shore planting and bird reserves. The fruit is being used for preserves.			
padus —European Bird Cherry, Clean seed .....	.20	.40	1.50
A hardy tree for wind break planting, a food tree for birds.			
pennsylvania —Pin Cherry .....	.15	.40	1.25
A native Cherry with red fruit planted as food tree for birds.			
serotina —Black Cherry.			
A native Cherry very moderate in its requirements and much planted on poor ground, recommended for wind breaks and wild life preserves. Next to the Black Walnut it is the highest priced native wood. Extensively planted by European foresters.			
Clean seed .....	..	.40	1.50
Dry berries .....	..	.25	.75
spinosa —Blackthorn, Clean seed .....	.15	.35	1.00
A spiny shrub from Europe, an excellent nesting plant for small birds.			
tomentosa —Nanking Cherry, Clean seed .....	.20	.40	1.50
Large bush or small tree of outstanding hardiness, valuable for its red fruits.			
virginiana —Common Chokecherry .....	.15	.35	1.00
Of shrub-like habit, desirable as food tree in bird reservations.			
PYRUS			
Pear blight resistant strains from Japan are now used as stock for grafting pears. Order seed in early fall for spring delivery.			
serotina —Japanese Wild Pear .....	.25	.60	2.00
sinensis —Chinese Pear .....	.30	.75	2.50
ussuriensis —Manchurian Wild Pear .....	.25	.60	2.00
QUERCUS			
alba —White Oak	25 lbs. \$4.00; 100 lbs. \$14.00	..	.20
Valuable for its lumber, seed ripens September or October and starts to germinate as soon as off the trees. It is important that seed is planted within two weeks from collection as it does not keep. Seed must be ordered in September, we collect on order only and make prompt shipment carefully packed.			
bicolor (platanoides) —Swamp White Oak, Meadow Oak			
	25 lbs. \$4.75; 100 lbs. \$17.50	..	.25
A very adaptable Oak of the White Oak group, a larger tree than the White Oak, can be planted on moist ground and swamps as well as on poor gravelly soils. Deserves widest attention for forest planting. Seed keeps well and can be planted from Fall to Spring. Order seed early.			
coccinea —Scarlet Oak	25 lbs. \$4.00; 100 lbs. \$14.00	..	.20
A fine ornamental, the foliage turning brilliant scarlet in the Fall. Our seed is all here collected, hardy Northern stock only.			
falcata (digitata rubra) —Southern Red Oak, Spanish Oak, a noble ornamental.			
	25 lbs. \$6.00; 100 lbs. \$20.00	..	.35
ilicifolia —Scrub Oak .....		..	.30
Shrubby Oak for planting on poor land. Order September or October.			
laurifolia —Laurel Oak, semi-evergreen .....		..	.45
lyrata —Overcup Oak	25 lbs. \$5.00; 100 lbs. \$18.50	..	.25
Handsome Oak with large leaves.			
macrocarpa —Bur Oak, Mossycup Oak	25 lbs. \$4.75; 100 lbs. \$17.50	..	.25
A massive tree, the largest of the White Oaks, an extremely hardy and fine shade tree, more smoke resistant than other Oaks. The large Acorns make an excellent food for hogs and all kinds of hoofed game. The seed keeps well but should be ordered September or October.			
macrocarpa olivaeformis .....		..	.50
Resembling the English Oak, Quercus robur, for which it is often mistaken. A fine hardy native Oak with straight trunk growing very tall. Seed is rare, perishable and must be planted in the Fall.			
marilandica —Blackjack Oak .....		..	.40
montana , see Prinus			
nigra (aquatica) .....		..	.35
palustris —Pin Oak	25 lbs. \$6.00; 100 lbs. \$22.00	..	.25
Our best native Oak for ornamental planting, a fast growing tree. Our seed is New England collected. order early in September if possible, there is never enough of it to go around.			
phellos —Willow Oak	25 lbs. \$6.50; 100 lbs. \$22.00	..	.35
A fine Oak with willow like leaves.			
pinus (montana) —Chestnut Oak .....		..	.50
Handsome Oak with bright green Chestnut like leaves.			
rubra —Common Red Oak, NEW ENGLAND SEED (see article, page 00).			
Prices for Fall delivery to November 1st.			
	25 lbs. \$3.25; 100 lbs. \$12.00; 1000 lbs. \$100.00	..	.15
Prices for Winter and Spring delivery, seed keeps well and can be planted late in May, keep in cool storage but do not stratify for after-ripening.			
	25 lbs. \$5.00; 100 lbs. \$18.00; 1000 lbs. \$160.00	..	.22
rubra ambigua (borealis) —Northern Red Oak ..	25 lbs. \$5.00; 100 lbs. \$18.00	..	.20
velutina (tinctoria) —Black Oak	25 lbs. \$5.00; 100 lbs. \$18.00	..	.25
Succeeding where Red Oak will not thrive on poor gravelly soil, it is often planted as a substitute for it.			

Quercus rubra

The value of the American Northern Red Oak as the most suitable tree for planting in connection with architectural projects of all kinds is more widely recognized in Europe than here in its own native country.

Oaks have been used for more than a thousand years as the most permanent, and from a timber standpoint, most valuable trees for wind-break planting around the homesteads in the wind-swept plains of Northern Europe. Planted in a square, often twenty trees deep around the farm buildings, no more efficient wind-break could be imagined, no more convincing symbol be found for human power and racial pride. The great grandson, perhaps, would use for addition or repairs on farm buildings, the lumber of trees which his forefather planted almost a hundred years ago and would plant a new tree for each one cut.

For our fast-living new age, the native oaks of Europe were too slow growing to satisfy the desire for an early showing, and the faster growing American Oak became a welcome substitute for the native kinds. Today the Red Oak is the most widely planted American deciduous tree in Europe second only to the Black Locust. As it thrives almost everywhere, even on light sandy ground it has also become a favorite with European foresters.

Having a greater spread and larger foliage than the European Oaks, it shades the ground better, produces more leaf litter and is therefore a better soil improver on poor ground than most other shade trees.

There is no reason why its native country should neglect this fine tree which combines all qualities which may be expected from a deciduous tree. Besides hardness it ranks high as a tree for beauty, is useful as a shade and shelter tree, for timber and as a food tree, producing large quantities of acorns, which make valuable food for swine and wild life on farms and in game preserves. For wind-breaks no stronger and more permanent tree could be found as it is anchored with a strong tap root and for that matter is drought resistant as hardly any other, and should make a valuable tree for erosion control and shelter belt planting as it may be planted from the acorns at site. The tap root is extended from the seedling the first season at more than ten times the growth of its top development into the moisture-holding subsoil. Very little cultivation is required for the young plants which will hold their own, even under a cover of weeds. Rapid growth will follow after the initial slow development during the first three years.

Acorns may be planted as late as the end of May.

We predict a glorious future for the American Red Oak. Plant this noble tree, wherever permanency is required.

	oz.	¼ lb.	lb.
RHAMNUS			
cathartica —Common Buckthorn, Clean seed.....	.15	.55	1.75
An extremely hardy shrub or small tree often planted for hedges and wind-breaks and as food for birds.			
frangula —Glossy Buckthorn, Clean seed .....	.15	.40	1.25
RHUS			
canadensis —Fragrant Sumac.....	.15	.30	1.00
A good ground cover shrub for borders and woodland plantings.			
glabra —Smooth Sumac.....	.15	.25	.75
This and the following are two extremely hardy shrubs adapted for planting on banks, dry slopes and bare places.			
typhina —Staghorn Sumac.....	.15	.25	.75
ROBINIA			
pseudoacacia —Common Locust.....	.15	.20	.50
Our most adaptable native tree naturalized everywhere in Eastern North America and all over Northern Europe. A valuable forest tree extensively planted for reforestation.			
pseudoacacia inermis —Thornless Locust.....	.15	.35	1.00
ROSA			
blanda —Meadow Rose, a small native rose. ....	.15	.35	1.10
canina —Dogbrier, Clean seed.....	.15	.25	.75
A vigorous rambling rose from Europe with arching branches, an excellent shelter plant for all kinds of wild life. Clean seed.			
humilis —Pasture Rose .....	.15	.35	1.10
lucida —Virginia Rose .....	.20	.45	1.50
nitida —Bristley Rose.....	.15	.35	1.10
rubiginosa —Sweetbrier Rose, Clean seed .....	.25	.60	2.00
With apple scented foliage, much like canina.			

ROSA	oz.	¼ lb.	lb.
rugosa —Rugosa Rose, Clean seed.....	.15	.35	1.25
An extremely hardy rose recommended for sea-shore plantings.			
setigera —Prairie Rose.			
A hardy American Rambling rose, less vigorous than canina, for planting on banks, railroad embankments and in wild life reservations.			
Hips.....	.15	.35	1.25
Clean seed.....	.35	.85	3.00
wichuriana —Wichurian Rose.			
Prostrate rose, a good ground cover plant useful for covering banks and bare places.			
Domestic hips.....	.15	.35	1.25
Imported clean seed.....	.20	.45	1.50
SAMBUCUS			
canadensis —American Elder, a valuable food plant for birds.....	.15	.35	1.00
nigra —European Elder, Clean seed.....	.20	.45	1.50
Very much like the American Elder but taller growing and more abundantly fruiting. The fruit is used for preserves and relished by birds.			
racemosa —European Red Elder, Clean seed.....	.30	.75	2.50
SORBUS —Mountain Ash.			
Small graceful trees bearing heavy crops of berries, important food trees for all kinds of wild life.			
americana —American Mountain Ash.			
Berries.....	..	.30	1.00
Dry berries.....	.20	.40	1.50
aucuparia —European Mountain Ash.			
Berries.....	..	.20	.65
Dry berries.....	.15	.40	1.25
Clean seed.....	.35	.85	3.25
TILIA			
All Lindens are fine ornamentals and good forest trees for their valuable wood and in high esteem with beekeepers as source for honey.			
americana —American Linden, Basswood.....	.15	.35	1.00
cordata (parviflora) —Littleleaf Winter Linden.....	.15	.30	.85
platyphyllos —Bigleaf European Linden.....	.15	.30	.85
tomentosa —Silver Linden.....	.15	.30	.85
ULEX			
europaeus —Common Gorse.....	.25	.75	2.35
A dwarf spiny shrub of the legume family, thriving on poorest ground, much used for planting on dunes and in Ireland as hedge plants.			
europaeus nanus —Dwarf Gorse.....	.35	.90	3.00
ULMUS			
americana —American Elm, New England seed.....	..	.30	.75
pumila —Chinese or Siberian Elm, Seed from Manchuria.....	.20	.40	1.50
Very hardy and drought resistant, the fastest growing shade tree, much planted wherever quick results are wanted. Does not do well on damp or poorly drained soil.			
VIBURNUM			
All Viburnum are excellent shrubs for wild life preserves, serving as shelter and food plants alike.			
acerifolium.....	.15	.35	1.35
americana —American Cranberrybush.....	.20	.40	1.50
cassinoides —Withe-Rod.....	.20	.40	1.50
dentatum —Arrow-Wood.....	.15	.35	1.10
lantana —Wayfaring Tree, Clean seed.....	.15	.40	1.50
lentago —Nannyberry.....	.15	.30	1.00
opulus —European Cranberry, Clean seed.....	.20	.40	1.50
prunifolium —Black Haw.....	.15	.40	1.25

III

HERBACEOUS PLANTS FOR COVER AND FORAGE

LUPINUS polyphyllus —Perennial Blue Lupin '.....10 lbs. \$6.00; 100 lbs. \$45.00	\$.15	\$.35	\$ 1.00
Recommended for planting on railroad embankments, as forage plant in game reservations.			
POLYGONUM sachalinense	2.50	..	..
A very hardy perennial growing to 6 ft. tall, a good shelter and forage plant. As plants spread rapidly underground do not plant in gardens.			
THERMOPSIS —caroliniana—Carolina Lupin.....	1.75	5.50	16.50
A legume with yellow flowers, five feet tall.			
YUCCA —filamentosa—Yucca.....	.30	.75	2.25
For ground cover on exposed places and banks.			

